

In the Claims

Please cancel claims 22-24 without prejudice and amend claim 36 such that the claims read as follows:

1-24. (Canceled)

25. (Previously Presented) A method for oxidative treatment of gaseous pollutants in a process gas stream, comprising the steps of:

conducting said gas stream into a thermal reactor via a process gas inlet, wherein said thermal reactor comprises heating elements, and wherein said process gas inlet comprises a conduit terminating with a portion of said conduit within said reactor wherein said portion of said conduit is located within a tube which projects beyond the end of said conduit to define a chamber within said tube, said tube having an open end communicating with the interior of said reactor; and

introducing other gases into said conduit via an independent inlet communicatively connected to said conduit, said independent inlet positioned along said conduit before said conduit terminates in said tube, said thermal reactor comprising a central chamber comprising said heating elements, an entry end and an exit end of said chamber, a side inlet communicating with an exterior air space defined by an exterior wall of the reactor and said heating elements, an interior air space communicating with said exterior air space, said interior air space defined by an interior wall of the reactor and said heating elements, and an orifice in said interior wall for introducing air from said interior space into said central chamber.

26. (Previously Presented) The method of Claim 25, wherein said conduit is curved.

27. (Previously Presented) The method of Claim 25, wherein said conduit and independent inlet are concentrically located.

28. (Previously Presented) The method of Claim 25, wherein a plurality of gas streams are introduced to said reactor via a plurality of process gas inlets.

29. (Previously Presented) The method of Claim 25, further comprising the step of:

flowing the gas stream after treatment in said thermal reactor to a particle removal chamber.

30. (Previously Presented) The method of Claim 29, wherein said particle removal chamber comprises:

a packed bed;

at least one liquid inlet positioned at the top of said chamber to provide a washing liquid to an intermittent sprayer; and

a continuous sprayer, wherein the packed bed is for trapping and condensing particles and said gas stream is upwardly flowed through said bed against downwardly flowing liquid; and

an air inlet positioned below said liquid inlets to provide flowing air onto the upper portion of said bed to cool an upper portion of said bed to promote condensation and particle growth within said bed.

31. (Previously Presented) The method of Claim 25, further comprising the step of:

flowing the gas stream after treatment in said thermal reactor to a scrubber for removing chemical pollutants.

32. (Previously Presented) The method of Claim 31, wherein said scrubber comprises:

an inlet for introducing said gas stream into a scrubbing chamber of said scrubber via an inlet, wherein said scrubbing chamber contains coated packing in at least two vertically separated beds, said coating being adapted to entrap or react with said pollutants.

33. (Previously Presented) The method of Claim 31, further comprising the steps of:

monitoring the amount of said pollutants being removed from said stream by said scrubber;

controlling selective introduction of a regenerative coating composition onto each of said beds to regenerate said coating on said packing.

34. (Previously Presented) The method of Claim 33, wherein said step of monitoring is performed by a detector that measures the concentration of a pollutant in the gas exiting said scrubber.

35. (Previously Presented) The method of Claim 33, further comprising the step of:

introducing said coating composition to said beds at predetermined time intervals.

36. (Currently Amended) A method of treating gaseous pollutants in a gas stream, comprising the steps of:

oxidatively treating a gas stream within a thermal reactor with other gases introduced into said thermal reactor, said thermal reactor comprising a central chamber comprising heating elements, an entry end and an exit end of said central chamber, a side inlet communicating with an exterior air space defined by an exterior wall of the reactor and said heating elements, an interior air space communicating with said exterior air space, said interior air space defined by an interior wall of the reactor and said heating elements, and an orifice in said interior wall for introducing air from said interior space into said central chamber;

introducing said oxidatively treated gas stream into a scrubber for removing chemical pollutants in said gas stream;

monitoring the amount of said pollutants being removed from said stream by said scrubber; and

selectively introducing a regenerative coating composition onto each of at least two vertically separated beds.